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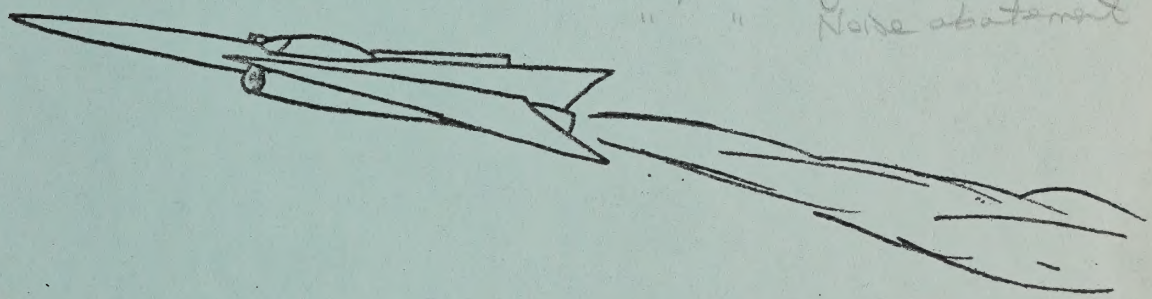
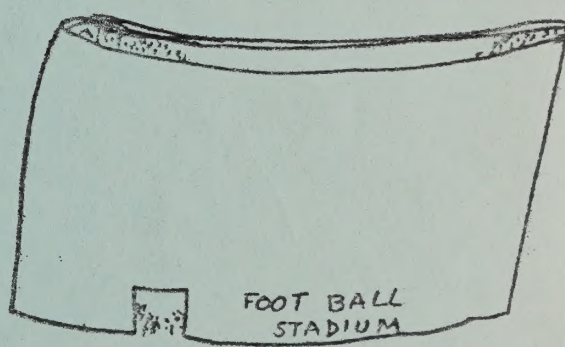
NOISE ELEMENT

Oatdale.

City planning Oatdale
" " Noise abatement





The following goal, objectives, and policies are recommended.

GOALS: WHAT DOES OAKDALE WANT?

1.0 To protect the Oakdale community from the hazards associated with excessive noise.

The following objectives and policies are designed to achieve the above indicated goal of the Noise Element.

OBJECTIVES: WHAT MUST OAKDALE DO?

1.0 Encourage sources with noise related data to provide needed "input" in the planning process.

POLICIES: HOW CAN OAKDALE DO THIS?

1.1 Develop and maintain liaison with transportation agencies regarding reduction in noise from existing facilities and control of noise through design and location and new facilities.

1.2 Develop and maintain liaison with health departments in the preparation of standards and ordinances and for assistance in on-site measurements of noise level.

2.0 Reduce the negative impact of excessive noise.

2.1 Construct sound barriers, particularly surrounding noise intolerant areas such as between residential areas and highways.

2.2 State laws related to vehicle noise shall be strictly enforced within the City limits.

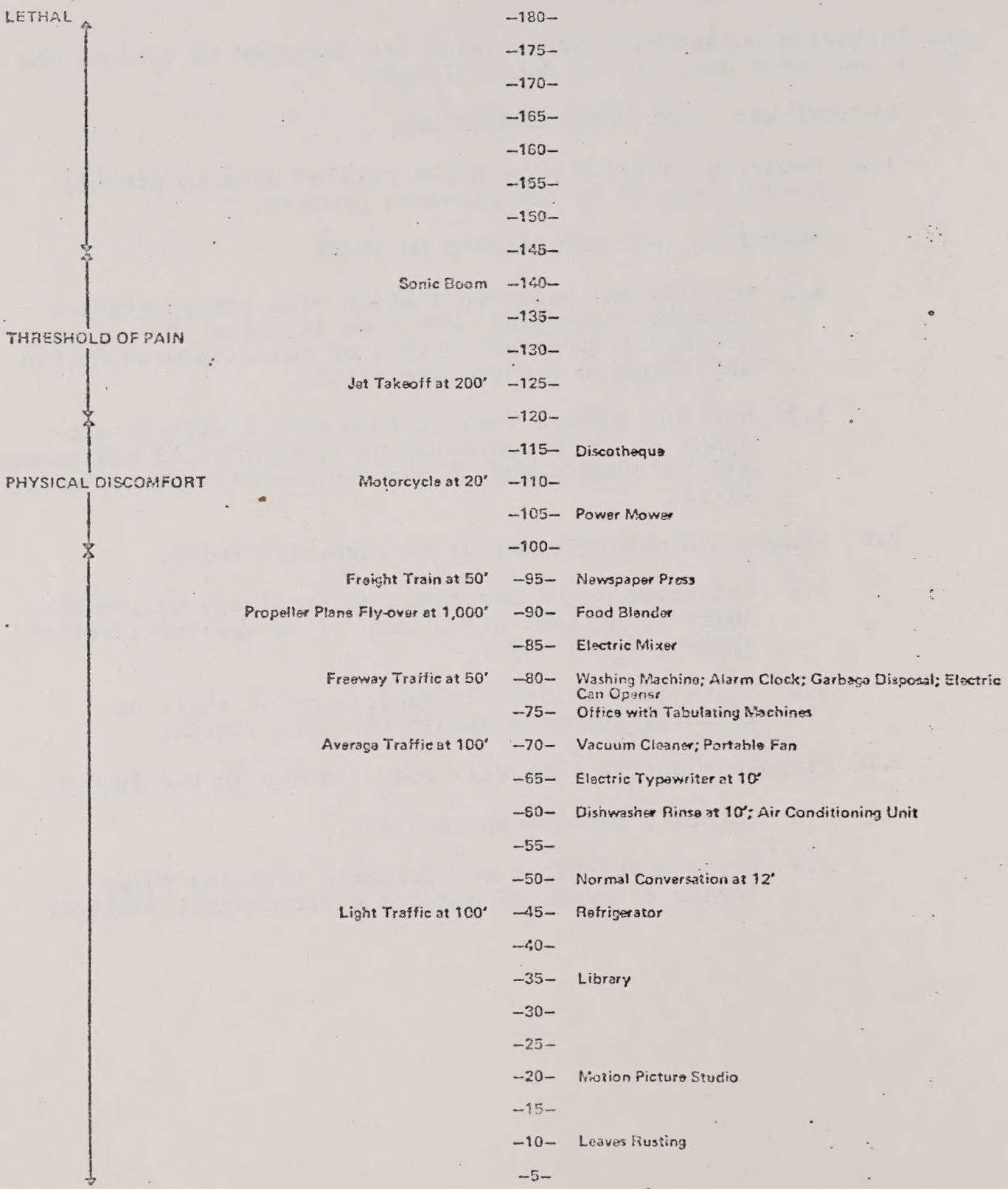
3.0 Promote planning that will reduce noise in the future.

3.1 Identify problem noise areas.

3.2 Prepare standards and criteria relating noise levels to types of use and environmental factors.

Figure 1

ACOUSTICAL SCALE

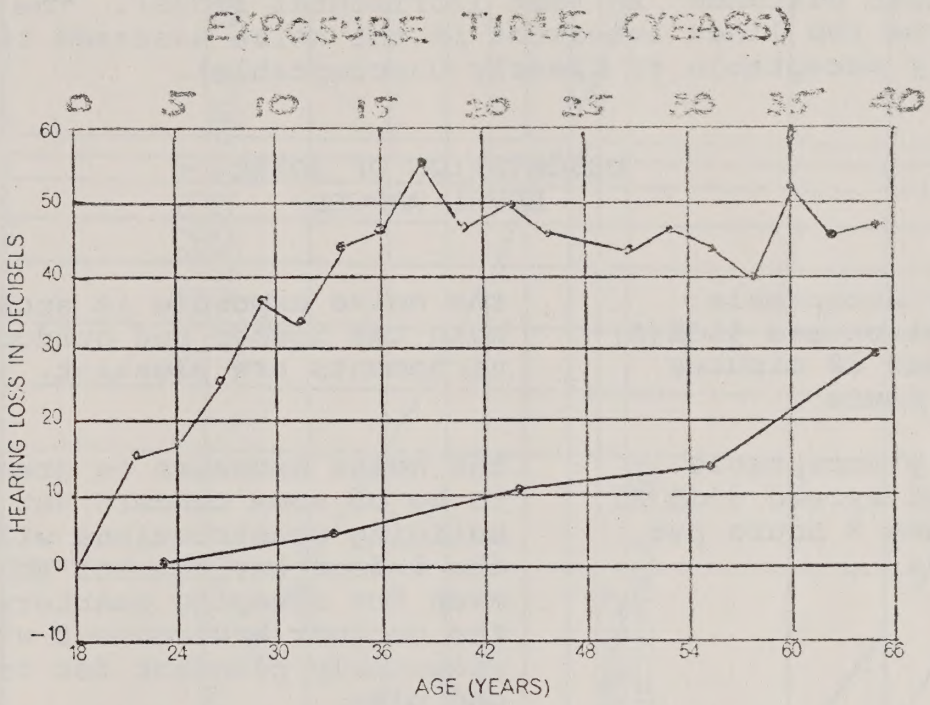


* The unit of sound is the decibel (dB). The loudness of sound is typically measured using a sound meter, the A-Scale of which corresponds closely to the way the human ear perceives sound.[2] Thus the sound level for noise evaluations is frequently expressed in dBA.

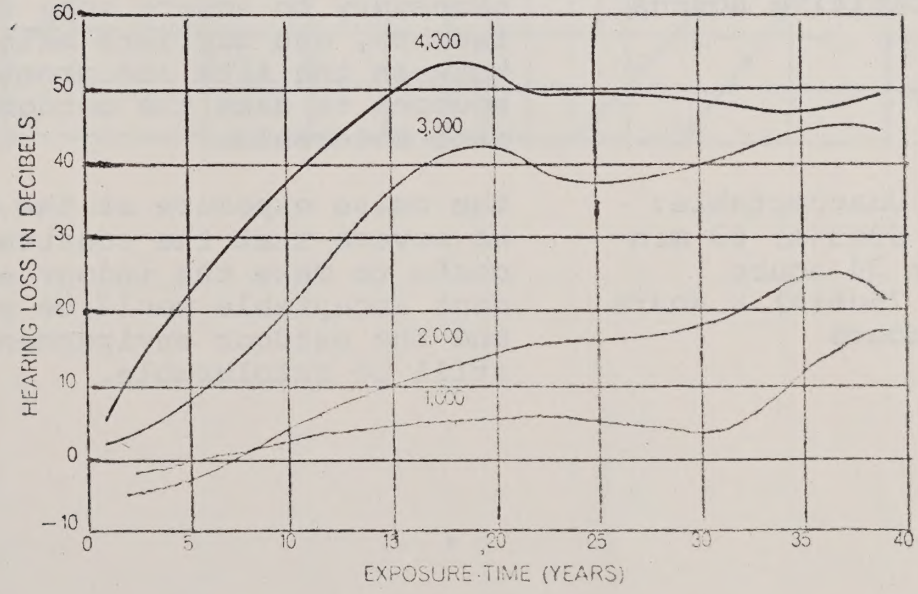
EFFECTS OF NOISE ON HUMAN HEARING

A committee of the American Standards Association, in a study that is still under way, has arrived at some preliminary ideas of permissible limits of noise exposure for a worker at his daily job.

The committee's tentative conclusion is that over an eight hour working day 85 decibels (for each of the octave-band frequencies above 700 cycles per second) is about the limit people can tolerate without substantial damage to their hearing.



LOSS OF HEARING is a natural result of aging (*bottom curve and scale*), but a much more severe loss can result from exposure to an excessively noisy environment (*top curve and scale*). High-frequency hearing suffers the most. Both curves are for 4,000 cycles per second.



CUMULATIVE DEAFNESS, due to years of exposure to a noise level averaging 90 decibels in each frequency band, shows two peaks. The maximum hearing loss at frequencies of 3,000 cycles per second and above is reached in about 15 years. Loss of hearing at frequencies of 2,000 cycles and below, however, does not reach its maximum until after 30 years or more.

NOISE ASSESSMENT GUIDE
DIRECTIONS FOR USE

The Noise Assessment Guide utilizes estimates of truck or auto flow per hour correlated with an estimate of what the noise level would be at a distance from the center of the nearest lane to the point of "hearing" - to determine levels of noise ranging from "Clearly Acceptable" to "Clearly Unacceptable."

To use the guide plot the number of autos or trucks per hour traveling along a route (vertical lines). Then, estimate the "Effective Distance" in feet (horizontal lines). The area in which the two lines intersect is the noise assessed range (Clearly Acceptable to Clearly Unacceptable).

DESCRIPTION OF NOISE LEVEL RANGES

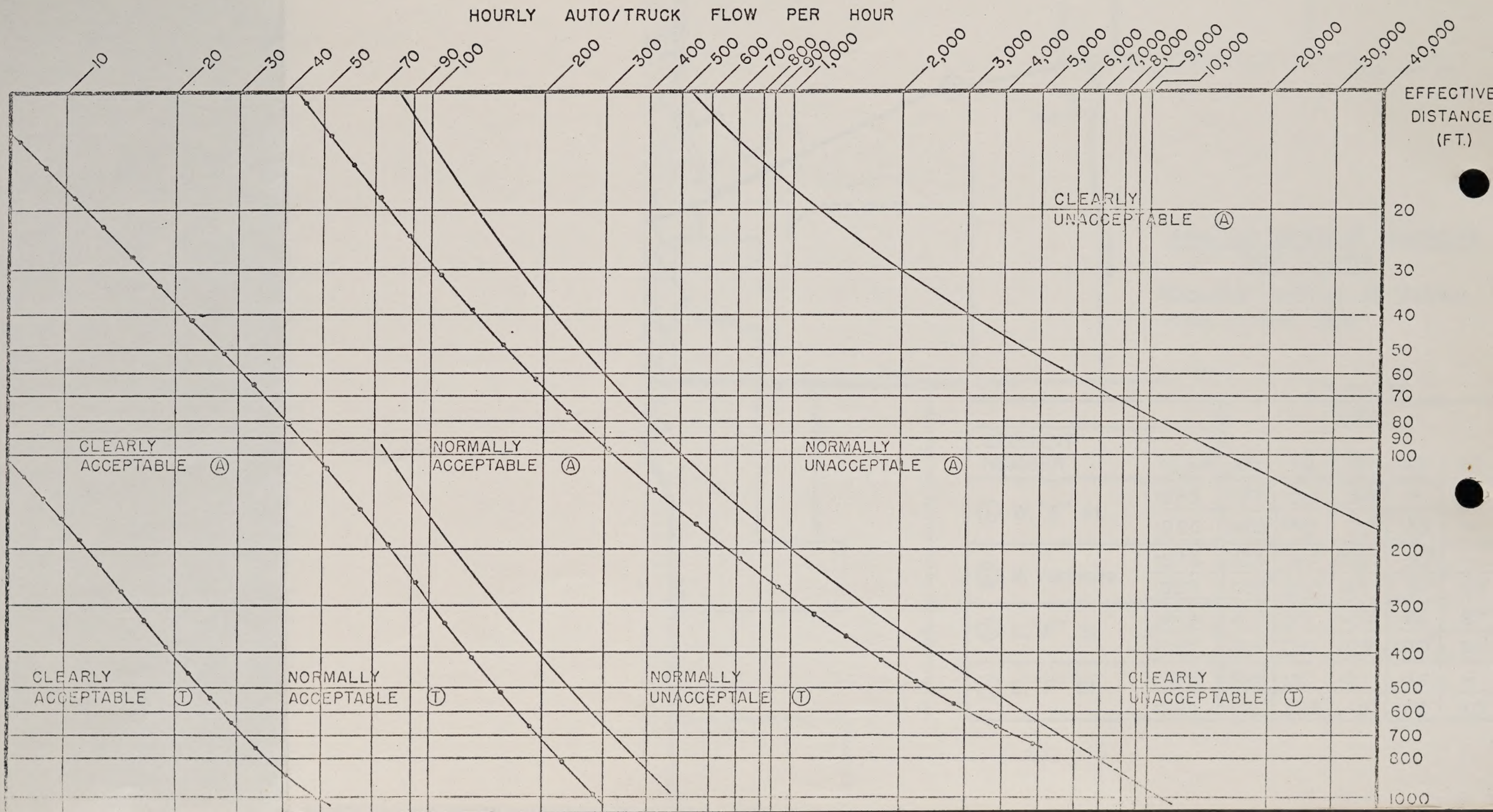
Clearly Acceptable: Does not exceed 45dB(A) more than 30 minutes per 24 hours	the noise exposure is such that both the indoor and outdoor environments are pleasant.
Normally Acceptable: Does not exceed 65dB(A) more than 8 hours per 24 hours	the noise exposure is great enough to be of some concern but common building constructions will make the indoor environment acceptable, even for sleeping quarters, and the outdoor environment will be reasonably pleasant for recreation and play.
Normally Unacceptable: Exceeds 65dB(A) 8 hours per 24 hours Loud repetitive sounds on site	the noise exposure is significantly more severe so that unusual and costly building constructions are necessary to ensure some tranquility indoors, and barriers must be erected between the site and prominent noise sources to make the outdoor environment tolerable.
Clearly Unacceptable: Exceeds 80dB(a) 60 minutes per 24 hours Exceeds 75dB(A) 8 hours per 24 hours	the noise exposure at the site is so severe that the construction costs to make the indoor environment acceptable would be prohibitive and the outdoor environment would still be intolerable.

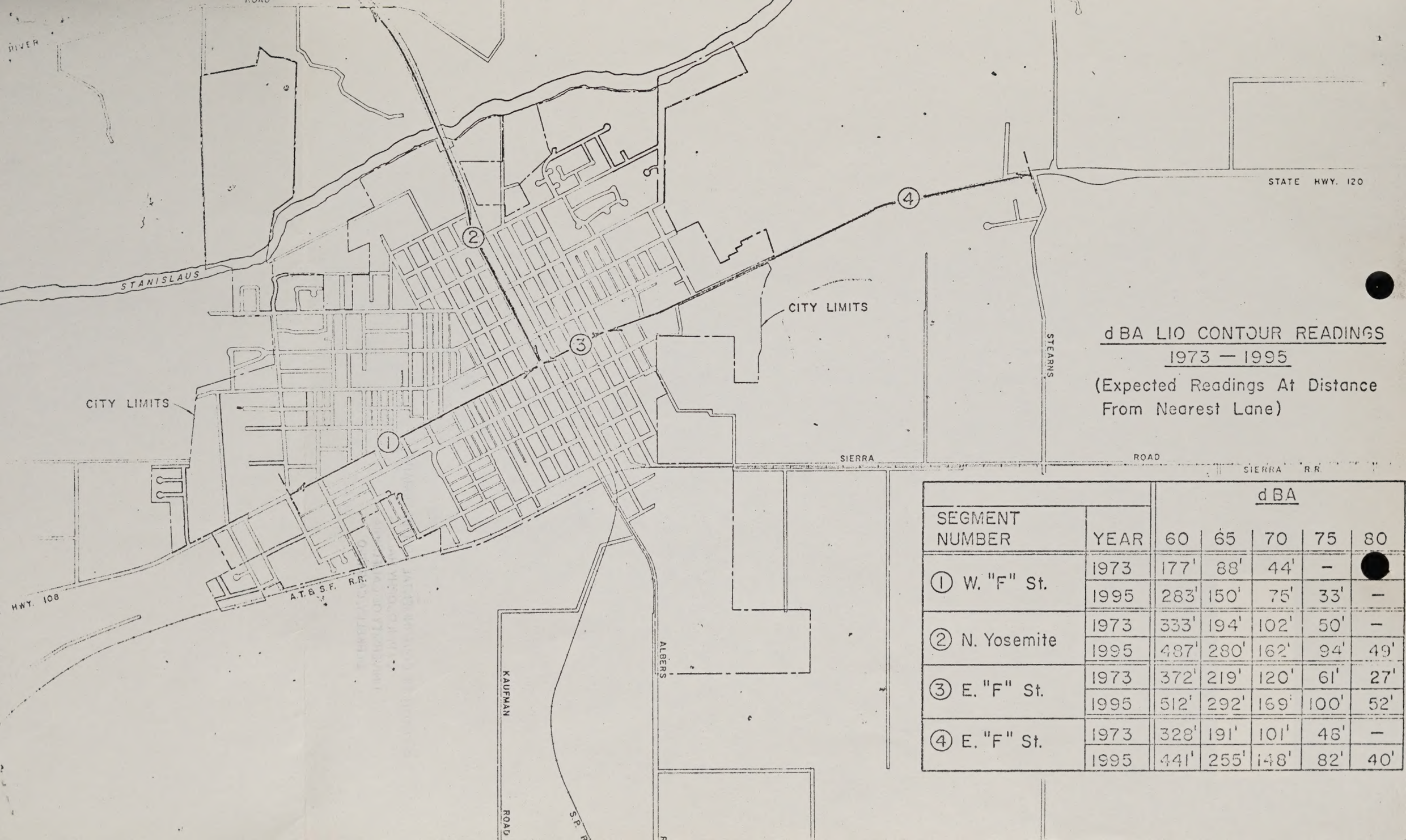
NOISE ASSESSMENT GUIDE

TRUCK ——— (T)

AUTO ——— (A)

SOURCE: U.S. Dept. Of Housing And Urban Development





dBA LIO CONTOUR READINGS
1973 — 1995
(Expected Readings At Distance From Nearest Lane)

SEGMENT NUMBER	YEAR	dBA 60	65	70	75	80
① W. "F" St.	1973	177'	88'	44'	–	
	1995	283'	150'	75'	33'	–
② N. Yosemite	1973	333'	194'	102'	50'	–
	1995	487'	280'	162'	94'	49'
③ E. "F" St.	1973	372'	219'	120'	61'	27'
	1995	512'	292'	169'	100'	52'
④ E. "F" St.	1973	328'	191'	101'	46'	–
	1995	441'	255'	148'	82'	40'

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